

The status of *Barbitistes serricauda* (Fabricius, 1794) (Ensifera: Phaneropteridae) – a re-assessment

Hannes BAUR¹ & Armin CORAY²

¹Department of Invertebrates, Natural History Museum, Bernastrasse 15,
CH-3005 Bern, Switzerland. E-mail: hannes.baur@nmbe.unibe.ch (correspondence)

²Department of Biosciences, Natural History Museum, Augustinergasse 2,
CH-4001 Basel, Switzerland. E-mail: armin.coray@balcab.ch

The status of *Barbitistes serricauda* (Fabricius, 1794) (Ensifera: Phaneropteridae) – a re-assessment. - In this paper, we examine the taxonomic and nominal status of a widespread species of European bush-cricket, *Barbitistes serricauda* (Fabricius, 1794) (Ensifera: Phaneropteridae). The name *B. serricauda* has almost exclusively been applied to a species occurring mainly north of the Alps from Spain through Central Europe to the Black Sea. A re-examination of two syntypes of *B. serricauda* has now revealed that they represent a different species occurring on the south side of the Alps in France, Italy and Switzerland, currently treated as *B. obtusus* Targioni-Tozzetti, 1881. Therefore, the species from the south side of the Alps should be called *B. serricauda* (instead of *B. obtusus*), while a new name would have to be found for the species from the north side of the Alps (hitherto *B. serricauda*). Considering the long established and well-defined use of *B. serricauda* and *B. obtusus*, this scenario would inevitably result in severe confusion and nomenclatural instability. Hence, a formal request will be submitted in December 2004 to the *International Commission on Zoological Nomenclature* to preserve the accustomed use of these names. Meanwhile, we suggest maintaining the prevailing usage in both cases. We furthermore discuss the status of *Barbitistes obtusus alpinus* Fruhstorfer, 1920, for which an invalid neotype was designated in a recent publication.

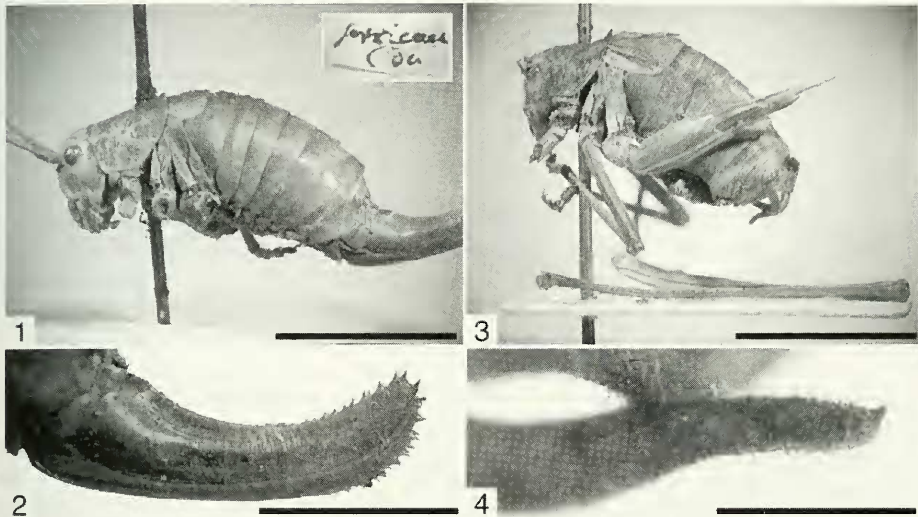
Keywords: Phaneropteridae - *Barbitistes* - *alpinus* - invalid neotype - *obtusus* - *serricauda* - *taurinensis* - nomenclature - taxonomy.

In a recent paper, Fontana & Buzzetti (2004) discussed the status of *Barbitistes obtusus* Targioni-Tozzetti, 1881 (Ensifera: Phaneropteridae). They showed that this name – contrary to accustomed usage (Brunner von Wattenwyl, 1882; Harz, 1969; Nadig, 1987; Coray & Thorens, 2001; among many others) – cannot be used for a species distributed on the southern slopes of the Alps in France, Switzerland and Italy as well as in the central Apennines. Targioni-Tozzetti (1881) actually based his taxon on some male specimens (type considered lost) from Sardinia (Italy), where the genus *Barbitistes* – in the current, narrow sense (Harz, 1969) – is absent; according to the

original description, the specific name *obtusus* thus applies to a Sardinian species of short winged Phaneropteridae, i.e. of the genus *Leptophyes* Fieber, *Metaplastes* Ramme or *Odontura* Rambur (the true identity is unclear). Therefore, Fontana & Buzzetti (2004) adopted *Barbitistes alpinus* Fruhstorfer, 1921 [*recte* 1920!] as the valid name for the respective species in the southern Alps and the Apennines [= *B. obtusus* of authors (not Targioni-Tozzetti) below]. They also erected a neotype for *B. alpinus* from northern Italy.

While we agree with Fontana & Buzzetti's (2004) interpretation of *Barbitistes obtusus* of Targioni-Tozzetti (1881), their choice of *B. alpinus* Fruhstorfer as a substitute name for *B. obtusus* of authors (not Targioni-Tozzetti) is problematic for two reasons. First, Fontana & Buzzetti (2004) overlooked the existence of original type material in the case of *B. alpinus* (lectotype designated by Baur & Coray, 2004: 616). According to article 75.8 of the *International Code of Zoological Nomenclature* (ICZN, fourth edition, 1999) the neotype designated by Fontana & Buzzetti (2004: 447) is thus invalid. Second, and more importantly, *B. alpinus* is not the oldest available name for *B. obtusus* of authors (not Targioni-Tozzetti), because *Locusta serricauda* Fabricius, 1794 has to be considered as well. This may look bewildering, because – since Brunner von Wattenwyl (1882: 268-269)! – the specific name *serricauda* has almost exclusively been adopted for a species of *Barbitistes* occurring mainly on the north side of the Alps from north-eastern Spain through France and Central Europe to the Black Sea (compare distribution map in Detzel, 1998: 208). For most parts of its range, the species is considered as a northern vicariate of *B. obtusus* of authors (not Targioni-Tozzetti) which is known only from the south side of the Alps (see above). However, the specific name *serricauda* was originally based on specimens collected at "Colline di Torino" in the Piedmont (Italy) on the southern slopes of the Alps (see Capra, 1946: 29). Nadig (1987: 268-271), who first called attention to this problem, collected specifically at the respective type locality where he found only one *Barbitistes* species, *B. obtusus* of authors (not Targioni-Tozzetti). Nadig therefore suggested that the name *B. serricauda* might apply to the latter species. In order to clarify this problem, we investigated the syntype series (1 ♂ 1 ♀, Figs 1-4) of *B. serricauda* which is deposited in the Fabricius collection in the Zoological Museum, University of Copenhagen, Denmark (see Zimsen, 1964)¹. Not surprisingly, our examination of the diagnostic characters fully confirms the view of Nadig. For in-

¹ Zimsen (1964: 619) mentioned in her type catalogue 2 specimens under *Locusta serricauda*. However, 3 conspecific specimens (2 ♂, 1 ♀) stood under the respective name in the Fabricius collection. We accept the female (Figs 1, 2), which is labelled "serricauda [on two lines]" in Fabricius' handwriting, and also the unlabelled male (Figs 3, 4) as syntypes; the other male is labelled "ephippi ger [on two lines]" in Fabricius' handwriting and is obviously excluded as a syntype. In the brief original description of *Locusta serricauda*, Fabricius (1794: 455) gave only a few characters and stated "Habitat in Italia Dr. Allioni" as origin of the material (see also Capra, 1946: 29), but he neither specified the number nor the sex of his specimens. Therefore, his description is possibly based on several female and male specimens. We thus follow recommendation 73F of the ICZN and consider also the male as part of the type series. Though the specific name *serricauda* (meaning "saw-tail") and the description of the ovipositor ("ense recurvo serrato") obviously refer to the female, all other characters fit equally well for both sexes.



FIGS 1-4

Locusta serricauda Fabricius, syntypes: (1) female (scale 1 cm) with label in Fabricius' hand-writing (original size), (2) ovipositor (scale 0.5 cm), (3) male (scale 1 cm); (4) apex of right cercus of male, from below (scale 0.1 cm). Photos H. Baur.

stance, the cerci of the male syntype (Fig. 4) are slightly obtuse at the apex and thus clearly lie within the range of *B. obtusus* of authors (not Targioni-Tozzetti) (Nadig, 1987: 269, figure 2). Furthermore, the female syntype has an almost flattened pronotal disc (Fig. 1) which corresponds well with the shape of the female pronotum of the same species (Harz, 1969: 69, figure 232; Coray & Thorens, 2001: 93, figure 29.4). Our analysis of the type series thus leaves no doubt, that *Barbitistes serricauda* (Fabricius, 1794) must be regarded as the valid name for *B. obtusus* of authors (not Targioni-Tozzetti), with *B. obtusus alpinus* Fruhstorfer, 1920 as a junior synonym².

This situation, although conclusive from a taxonomic view point, is highly problematic with regard to nomenclatural stability. As outlined above, *B. serricauda* (Fabricius, 1794) and *B. obtusus* Targioni-Tozzetti, 1881 have been widely used for more than 120 years in the sense of Brunner von Wattenwyl (1882). In a thorough review of the literature, compiled for documenting the usage of the names, *B. serricauda* appears in at least 56 and *B. obtusus* in at least 36 major taxonomic and faunal works, not to mention innumerable additional, smaller faunistic or ecological papers. Considering the widespread and well-defined use of these names, a strict application of the rules of zoological nomenclature would inevitably result in severe confusion concerning their application. We are therefore preparing a formal request to the *International Commission on Zoological Nomenclature* to preserve the accustomed usage of *B. serricauda* and *B. obtusus*. This application will be submitted in December 2004

²*Barbitistes serricauda taurinensis* Griffini (see Griffini, 1893: 10) most likely is a further junior synonym of *B. serricauda*.

for publication in the *Bulletin of Zoological Nomenclature*. We are inviting interested researcher to comment on this case upon its publication. Meanwhile, we suggest that the prevailing usage of *B. serricauda* and *B. obtusus* be maintained (compare ICZN, art. 82).

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REFERENCES

- BAUR, H. & CORAY, A. 2004 [publ. 30.9.2004]. A revision of the Blattodea, Ensifera and Caelifera described by H. Fruhstorfer. *Revue suisse de Zoologie* 111(3): 611-630.
- BRUNNER VON WATTENWYL, C. 1882. Prodrömus der europäischen Orthopteren. *Wilhelm Engelmann, Leipzig*, XXXII + 466 pp. + 11 pls + 1 map.
- CAPRA, F. 1946. Sulla terra tipica di alcuni ortotteroidei Italiani. *Bollettino della Società Entomologica Italiana* 76(3-4): 29-32.
- CORAY, A. & THORENS, P. 2001. Heuschrecken der Schweiz: Bestimmungsschlüssel / Orthoptères de Suisse: clé de détermination / Ortotteri della Svizzera: chiave di determinazione. *Fauna Helvetica* 5. *Centre suisse de cartographie de la faune, Neuchâtel*, 235 pp.
- DETZEL, P. 1998. Die Heuschrecken Baden-Württembergs. *Ulmer, Stuttgart*, 580 pp.
- FABRICIUS, J. C. 1794. Entomologia Systematica emenda et aucta. Secundum classes, ordines, genera, species adjectis synonymis, locis, observationibus, descriptionibus. Tom IV. *Hafniae, C. G. Proft*, VI + 472 pp.
- FONTANA, P. & BUZZETTI, F. M. 2004 [publ. 30.6.2004]. Biogeographical considerations on some mediterranean Phaneropteridae and description of a new genus and a new species from South Africa (Orthoptera). *Memorie della Società Entomologica Italiana* 82(2) ["2003"]: 441-468.
- GRIFFINI, A. 1893. Ortotteri del Piemonte. *Bollettino dei Musei di Zoologia ed Anatomia comparata della R. Università di Torino* 8 (N. 141): 1-29.
- HARZ, K. 1969. Die Orthopteren Europas/The Orthoptera of Europe. Vol. I. *Series entomologica* 5. *W. Junk, The Hague*, XX + 749 pp.
- NADIG, A. 1987. Saltatoria (Insecta) der Süd- und Südostabdachung der Alpen zwischen der Provence im W, dem pannonischen Raum im NE und Istrien im SE (mit Verzeichnissen der Fundorte und Tiere meiner Sammlung). I. Teil: Laubheuschrecken (Tettigoniidae). *Revue suisse de Zoologie* 94(2): 257-356.
- TARGIONI-TOZZETTI, A. 1881. Orthoptera Italicae. Specie novae in collectione R. Musei Florentini digestae. *Bullettino della Società entomologica Italiana* 13: 180-186.
- ZIMSEN, E. 1964. The type material of I. C. Fabricius. *Munksgaard, Copenhagen*, 656 pp.